

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	John H.J. Petrini et al.	Examiner:	Unknown
Serial No.:	Unknown	Group Art Unit:	Unknown
Filed:	Herewith	Docket:	800.019US2
Title:	DNA ENCODING A DNA REPAIR PROTEIN		

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**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

**In the Specification**

On page 1, before "Statement of Government Rights", please insert

**--Cross-Reference to Related Application**

This application is a divisional of U.S. application No. 09/067,641 filed April 27, 1998.--

Please substitute page 11, paragraph 4 for the paragraph in the appendix entitled "Clean Version of Page 11, Paragraph 4". Specific amendments to page 11, paragraph 4 are detailed in the following marked-up paragraph:

Figure 6. Structure of the p95 cDNA. (A) The schematic diagram represents the structure of the p95 cDNA. The entire 4,483 basepair (bp) cDNA [(SEQ ID NO:1)] is represented by the thin line and the rectangular box is the 754 amino acid (aa) open reading frame (ORF) (SEQ ID NO:2). Within the ORF the grey box indicates the N-terminal region showing homology to *S. cerevisiae* Xrs2. The solid line above the ORF indicates the region cloned by two-hybrid screen utilizing hMre11 as bait. (B) N-terminal alignment of p95 (SEQ ID NO:3) with Xrs2 (SEQ ID NO:4). The shaded boxes indicate the regions of similarity. The two proteins show 28% identity and 46% similarity over the region displayed. The following amino acids were considered similar: {D, E, N, Q} {F, W, Y} {I, L, V} {K, R} {A, G} {S, T} {C} {H} {M} {P}. (C) A Zoo-Blot Southern blot (Clontech, Palo Alto, CA) of EcoRI digested DNA from various species was probed with the *NBS1* cDNA. Lane 1, human; lane 2, monkey; lane 3, rat; lane 4, mouse; lane 5, dog; lane 6, cow; lane 7, rabbit; lane 8, chicken; and lane 9, yeast. The position of size markers (in kilobase pairs) is indicated on the left.

Please substitute page 13, paragraph 5 for the paragraph in the appendix entitled "Clean Version of Page 13, Paragraph 5". Specific amendments to page 13, paragraph 5 are detailed in the following marked-up paragraph:

Figure 14. cDNA sequence of p95 (SEQ ID NO:1).

Please substitute page 73, Table 1 for the table 1 in the appendix entitled "Clean Version of Page 73, Table 1". Specific amendments to page 73, table 1 are detailed in the following marked-up table:

Table 1

## Peptides Obtained From Mass Spectrometry Analysis

Peptide <sup>a</sup>	Position <sup>b</sup>
-QPPQIESFYPLDEPSIGSK-	189-209 (SEQ ID NO:9)
-LSSAVVFGGGEAR-	238-251 (SEQ ID NO: 10)
-WIQSIMDMLQR-	289-299 (SEQ ID NO: 11)
-QGLRPIPEAEIGLAVIFMTTK-	300-320 (SEQ ID NO: 12)
-TTTPGPSLSQGVSVDEK-	335-351 (SEQ ID NO: 13)
-MLSQDAPTVEK-	395-404 (SEQ ID NO: 14)
-TSSNNNSMVSNTLAK-	409-423 (SEQ ID NO: 15)
-IPNYQLSPTKLPSINK-	426-441 (SEQ ID NO: 16)
-NYFQPSTKK-	458-465 (SEQ ID NO:17)
-NKEQHLSSENEPVDNTSDNNLFTDTDLK-	503-529 (SEQ ID NO:18)
-EMDDVAIEDEVLEQLFK-	552-558 (SEQ ID NO: 19)
-MDIETNDTFSDEAVPESSK-	595-613 (SEQ ID NO:20)
-ELKEDSWAK-	625-635 (SEQ ID NO: 21)
-KLLLTEFR-	653-660 (SEQ ID NO:22)
-NPSGINDDYGQLK- <sup>c</sup>	671-683 (SEQ ID NO:23)
-EESLADDLFR-	736-745 (SEQ ID NO:24)

**PRELIMINARY AMENDMENT**

Serial Number: 09/067,641

Filing Date: April 27, 1998

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Page 3

D.L.: 800.019US2

**In the Claims**

Please substitute the claim set entitled "Clean Version of Pending Claims" attached hereto for the pending set of claims. Specific amendments to individual claims are detailed below.

Please cancel claims 5-19 without prejudice.

Please amend the claims as follows:

1. (Amended) An isolated and purified nucleic acid molecule comprising a nucleic acid segment encoding a vertebrate DNA repair polypeptide, or a biologically active [subunit or variant] fragment thereof, wherein the polypeptide has a molecular weight of about 95000 Da as determined by SDS-PAGE.

Please add the following new claims:

20. (New) The nucleic acid molecule of claim 1 further comprising a promoter.
21. (New) The nucleic acid molecule of claim 1 wherein the nucleic acid segment is SEQ ID NO:1.
22. (New) The nucleic acid molecule of claim 1 which encodes a fusion polypeptide comprising at least a portion of the DNA repair polypeptide which binds an antibody specific for SEQ ID NO:2.

**Remarks**

Claims 5-19 are canceled, claim 1 is amended and claims 20-22 added. The pending claims are claims 1-4 and 20-22.

Amended claim 1 is supported by originally-filed claim 1.

New claim 20 is supported by page 4, lines 14-18 of the specification. New claim 21 is supported by originally-filed claim 4 and Example 2. New claim 22 is supported by page 4, lines 14-18 and page 15, lines 3-5 of the specification.

PRELIMINARY AMENDMENT

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Page 4

D.L.: 800.019US2

The Examiner is respectfully requested to consider the amendments herein prior to taking up the above-identified application for the first Office Action.

Respectfully submitted,

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By their Representatives,

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April 18, 2001

By



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This paper or fee is being deposited on the date indicated above with the United States Postal Service pursuant to 37 CFR 1.10, and is addressed to The Commissioner for Patents, Box Patent Application, Washington, D.C. 20231.